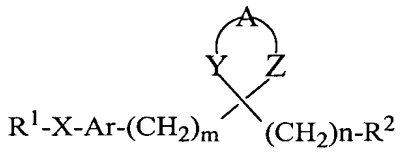
IN THE CLAIMS

Please amend the claims as follows:

Claims 1-37 (Canceled).

Claim 38 (New): A compound of the formula:



(I)

wherein R^1 is phenyl, optionally substituted by a group selected from the group consisting of the following (C1) to (C31):

(C1) halogen,

(C2) lower alkyl,

(C3) lower alkoxy,

(C4) halo(lower)alkyl,

(C5) halo(lower)alkoxy,

(C6) lower alkenyl,

(C7) lower alkylcarbamoyl, carbamoyl, phenyl(lower)alkylcarbamoyl, lower alkanoyl,

(C8) lower alkylthio, lower alkylsulfinyl, lower alkylsulfonyl,

(C9) phenyl, naphthyl,

(C10) halophenyl,

(C11) hydroxy,

(C12) mono- or dihydroxy(lower)alkyl, phenoxycarbonyloxy(lower)alkyl

(C13) amino,

(C14) carboxy,

(C15) lower alkylenedioxy,

(C16) lower alkanoylamino,

phenyl(lower)alkanoylamino, halophenyl(lower)alkanoylamino,

lower alkoxy(lower)alkanoylamino,

phenoxy(lower)alkanoylamino, lower alkoxyphenoxy(lower)alkanoylamino,

lower alkylphenoxy(lower)alkanoylamino,

halophenoxy(lower)alkanoylamino,

carboxy(lower)alkanoylamino, lower alkoxycarbonyl(lower)alkanoylamino,

lower alkylcarbamoyl(lower)alkanoylamino,

halo(lower)alkanoylamino,

lower alkenyl(lower)alkanoylamino,

lower alkoxy(lower)alkanoylamino,

phenyl(lower)alkoxy(lower)alkanoylamino,

piperidinyloxy(lower)alkanoylamino, N-lower alkoxycarbonylpiperidinyloxy-

(lower)alkanoylamino, pyridyloxy(lower)alkanoylamino,

hydroxy(lower)alkanoylamino,

lower alkanoyloxy(lower)alkanoylamino,

lower alkylcarbamoyloxy(lower)alkanoylamino, N,N-di(lower

alkyl)carbamoyloxy,

piperidino-carbonyloxy(lower)alkanoylamino,

phenyl(lower)alkylcarbamoyloxy(lower)alkanoylamino, lower

alkoxycarbonylamino(lower)alkanoylamino,

amino(lower)alkanoylamino, fluorenylmethoxycarbonylamino(lower)-

alkanoylamino,

lower alkylamino(lower)alkanoylamino, [N,N-di(lower alkyl)amino](lower)alkanoylamino, [N-lower alkyl-N-(lower alkoxycarbonyl)-amino](lower)alkanoylamino, [N-loweralkyl-N-(fluorenylmethoxycarbonyl)amino](lower) alkanoylamino, [N-lower alkyl-N-(mono- or di(lower)-alkylcarbamoyl)amino](lower)alkanoylamino, [N-(mono- or di(lower alkyl)carbamoyl)amino](lower)alkanoylamino, benzoylamino(lower)alkanoylamino, lower alkanoylamino(lower)alkanoylamino, lower alkanesulfonylamino(lower)alkanoylamino, lower alkoxy(lower)alkanoylamino(lower)alkanoylamino, cyclo(lower)alkyloxycarbonylamino-(lower)alkanoylamino, pyridylcarbonylamino(lower)alkanoylamino, morpholinocarbonylamino(lower)alkanoylamino, phenyl(lower)alkoxyoxycarbonylamino(lower)alkanoylamino, lower alkoxyphenylsulfonylamino(lower)alkanoylamino, hydroxy(lower)alkylamino(lower)alkanoylamino, morpholino(lower)alkanoylamino, oxooxazolidinyl(lower)alkanoylamino, oxopyrrolidinyl(lower)alkanoylamino, trimethylhydantoinyl(lower)alkanoylamino, lower alkenylamino(lower)alkanoylamino, lower alkoxy(lower)alkylamino(lower)alkanoylamino, phenyl(lower)alkylamino(lower)alkanoylamino, pyridyl(lower)alkylamino(lower)alkanoylamino, lower alkoxycarbonylamino, phenyl(lower)alkoxycarbonylamino,

lower alkoxy(lower)alkoxycarbonylamino,

halo(lower)alkoxycarbonylamino,

amino(lower)alkoxycarbonylamino, phthalimido(lower)alkoxycarbonylamino,

carbamoylamino,

(mono- or di(lower alkyl)carbamoylamino,

naphthylcarbamoylamino,

halophenylcarbamoylamino,

lower alkoxyphenylcarbamoylamino,

lower alkenylcarbamoylamino,

cyclo(lower)alkyl(lower)alkylcarbamoylamino,

phenyl(lower)alkylcarbamoylamino,

halo(lower)alkylcarbamoylamino,

lower alkoxy(lower)alkylcarbamoylamino,

hydroxy(lower)alkylcarbamoylamino, (lower

alkyl)(diphenyl)silyloxy(lower)alkylcarbamoylamino,

carboxy(lower)alkylcarbamoylamino, lower

alkoxycarbonyl(lower)alkylcarbamoylamino,

lower alkylcarbamoyl(lower)alkylcarbamoylamino,

pyridylcarbamoylamino,

lower alkylsulfonylamino,

lower alkenoylamino,

lower cycloalkanecarbonylamino,

lower alkenyloxycarbonylamino,

phenoxycarbonylamino,

lower alkylthiocarbonylamino,

(C17) phenyl(lower)alkoxy,

(C18) lower alkenyl, mono- or di(lower alkyl)carbamoyl(lower)alkenyl, (2-(methylcarbamoyl)ethenyl, 2-(ethylcarbamoyl)ethenyl, 2-(propylcarbamoyl)ethenyl, 2-(isopropylcarbamoyl)ethenyl, 2-(dimethylcarbamoyl)ethenyl,)

phenylcarbamoyl(lower)alkenyl,

lower alkoxycarbamoyl(lower)alkenyl,

halophenylcarbamoyl(lower)alkenyl,

(C19) lower alkylaminocarbonyloxy,

(C20) lower alkanoyloxy,

(C21) lower alkoxy(lower)alkanoyloxy,

(C22) lower alkoxycarbonyloxy,

(C23) pyridyl(lower)alkenoyloxy

(C24) lower cycloalkanecarbonyloxy,

(C25) carboxy(lower)alkoxy,

lower alkoxycarbonyl(lower)alkoxy,

lower alkanoyl(lower)alkoxy,

lower cycloalkanecarbamoyl(lower)alkoxy,

lower alkylcarbamoyl(lower)alkoxy,

(C26) lower alkylcarbamoyloxy(lower)alkyl,

(C27) lower alkoxycarbonylamino(lower)alkyl,

(C28) amino(lower)alkyl,

(C29) lower alkylcarbamoyl(lower)alkyl,

(C30) furylcarbonylamino, teretahydroisoquinolylcarbonylamino, N-lower alkoxycarbonyl-teretahydroisoquinolylcarbonylamino, pyrrolidinylcarbonylamino, and

(C31) oxazolyl, lower alkyloxadiazolyl,

R^2 is carboxy or hydroxyaminocarbonyl,

Ar is thienyl,

A is trimethylene,

X is a single bond,

Y is thia, sulfinyl or sulfonyl,

Z is methylene,

m and n are each an integer of 0 to 6, and

$$1 \leqq m+n \leqq 6,$$

and salts thereof.

Claim 39 (New): The compound of Claim 38, wherein R^2 is carboxyl.

Claim 40 (New): The compound of Claim 38, wherein R^2 is hydroxyaminocarbonyl.

Claim 41 (New): The compound of Claim 38, wherein Y is thia.

Claim 42 (New): The compound of Claim 38, wherein Y is sulfinyl.

Claim 43 (New): The compound of Claim 38, wherein Y is sulfonyl.

Claim 44 (New): The compound of Claim 38, wherein R^1 is substituted phenyl.

Claim 45 (New): The compound of Claim 44, wherein R^1 is phenyl substituted by a group selected from (C1), (C2), (C3), (C4), (C5), (C6), (C7), (C8), (C9), and (C10).

Claim 46 (New): The compound of Claim 44, wherein R^1 is phenyl substituted by a group selected from (C11), (C12), (C13), (C14), (C15), (C16), (C17), (C18), (C19), and (C20).

Claim 47 (New): The compound of Claim 44, wherein R^1 is phenyl substituted by a group selected from (C21), (C22), (C23), (C24), (C25), (C26), (C27), (C28), (C29), (C30), and (C31).

Claim 48 (New): A pharmaceutical composition which comprises the compound of Claim 38 or a pharmaceutically acceptable salt thereof; and a pharmaceutically acceptable carrier or excipient.

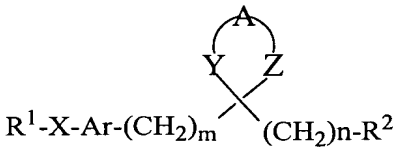
Claim 49 (New): A process for preparing a pharmaceutical composition which comprises mixing the compound of Claim 38 or a pharmaceutically acceptable salt thereof with a pharmaceutically acceptable carrier or excipient.

Claim 50 (New): A method for treating matrix metalloproteinases (MMP) or tumor necrosis factor $\underline{\alpha}$ (TNF $\underline{\alpha}$)-mediated disease, the method comprising administering to a patient in need thereof, a therapeutically effective amount of the compound of Claim 38 or a pharmaceutically acceptable salt thereof, wherein the matrix metalloproteinases (MMP) or tumor necrosis factor α (TNF α)-mediated disease is selected from the group consisting of arthritis, cerebral disease, tissue ulceration, abnormal wound healing, periodontal disease,

bone disease, tumor metastasis, tumor invasion, HIV-infection, autoimmune disease, and sepsis.

Claim 51 (New): The method of Claim 50, wherein the matrix metalloproteinases (MMP) or tumor necrosis factor α (TNF α)-mediated disease is arthritis.

Claim 52 (New): A process for the preparation of a compound of the formula:

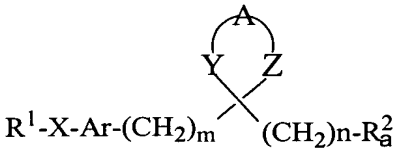


(I)

in which R^1, R^2, Ar, A, X, Y, Z, m and n are each as defined in Claim 38,

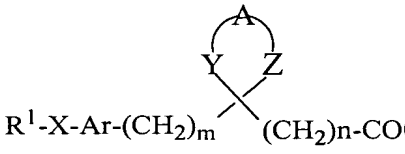
which comprises

(1) subjecting a compound of the formula:



(I-a)

or a salt thereof to removal reaction of the carboxy-protective group, to give a compound of the formula:



(I-b)

or a salt thereof.